

BigsbyTM
**GAME
CHANGER
AUDIO**



**THANK YOU FOR PURCHASING
THE BIGSBY PEDAL**

We congratulate you on your excellent choice, and we sincerely thank you for supporting Gamechanger Audio.

The BIGSBY Pedal is a revolutionary polyphonic pitch shifter that specializes in reproducing the string bending and vibrato effects produced by the BIGSBY tremolo arm and other traditional tremolo systems.

The idea to create a BIGSBY-style pitch shifting pedal was born from a long-standing admiration for the BIGSBY system's unique feel, sound and design.

In 2019 we approached FENDER and BIGSBY and secured a partnership deal for the development of the BIGSBY Pedal. We hope you enjoy this unique tribute to Paul Bigsby's timeless design.

ALGORITHM

Powered by the formidable SHARC® Audio Processor, the BIGSBY Pedal runs a proprietary hybrid algorithm that was specifically developed for smooth polyphonic real-time pitch-shifting at low intervals.

The BIGSBY algorithm has been painstakingly tweaked to preserve the natural timbre and sound of electric string instruments, including baritone and bass guitars.

It also works beautifully with acoustic instruments, including guitars, mandolins, banjos, etc.

Another key component of the BIGSBY Pedal's sound is the DETUNE parameter, an additional algorithm designed to emulate the imperfections and dissonant properties of traditional mechanical string-bending hardware. As a result, the vibrato effects produced by the BIGSBY Pedal are almost indistinguishable from those of a traditional hardware tremolo arm.

 **For best results, please make sure that the BIGSBY Pedal is placed at the front of your signal chain and is receiving the clean output signal from your instrument.**

INTERFACE

The unique spring-loaded foot-pedal design opens up a multitude of new ways to incorporate pitch shifting into your playing.

First of all, the pedal is always "on" - the only thing you need to do to "activate" it is to step on the foot-pedal.

You will immediately hear a change in pitch, and the white indicator light (the SELECT button) will change brightness depending on how much pressure you apply to the foot-pedal. As soon as you let go, the pedal will spring back into position so that your instrument's signal is unaffected.

We have made sure that transitions between the DRY and WET (pitched) signals are as smooth as possible, allowing you to seamlessly incorporate pitch-bends into complex picking patterns as well as lead and melodic lines.

This opens the door to a world of new strumming patterns, bend combinations and beautiful lap-steel and slide-inspired licks that cannot be achieved with a regular tremolo system.

We hope you enjoy the powerful BIGSBY Pedal and are able to take full advantage of its capabilities. May it bring hundreds of hours of inspiration and joy.



The BIGSBY Pedal's central feature is the "L-shaped" foot-pedal.

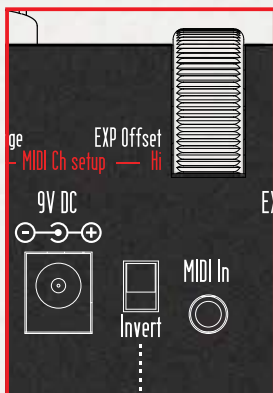
You can press both ends of the foot-pedal to produce downward or upward pitch shifts.

The "direction" of the pedal depends on the INVERT toggle-switch on the pedal's back panel.



When the switch is **DOWN**, the pedal will behave as expected - the long end of the foot-pedal will produce a pitch-down effect and the curved end will pitch the signal upwards.

When the switch is **UP**, the direction is reversed - the long end will pitch the signal up, and the curved end will drop the pitch down.

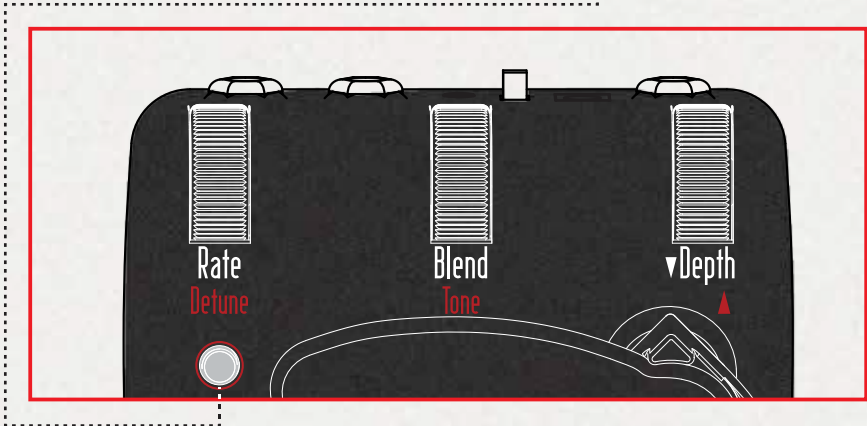


MAIN CONTROLS

The BIGSBY Pedal's main controls consist of three backlit rotary knobs and the SELECT button.

The knobs on the pedal's front panel have two "layers": the WHITE layer and the RED layer.

To toggle between the WHITE and RED layers - press the SELECT button.



Auto Mode rate

DRY signal mix

Foot-pedal down-shift depth



WET signal detune amount

WET signal tone

Foot-pedal up-shift depth

DEPTH ▾

The DEPTH knob ranges from 0 to 12 semitones - this means that when the knob is turned all the way up (the knob is bright) and the foot-pedal is fully pressed down, the BIGSBY will pitch the incoming signal down by a full octave. When it is turned all the way down (the knob is dark) there will be no pitch shifting effect at all - this may come in handy when using the pedal as an Expression controller and no pitch shift is desired (see pages 5, 6).

The first segment of the DEPTH knob is a gradual, unquantized climb from zero towards a $\frac{1}{4}$ tone interval. As you gently turn up the DEPTH control from its minimum value, you will see the knob light up slightly - this is an indication that you are now at the $\frac{1}{4}$ tone setting, and the full range of the foot-pedal is dedicated to a $\frac{1}{4}$ tone pitch-shift. By setting the DEPTH knob between the zero and $\frac{1}{4}$ tone values, you can access minimal pitch-shift values, even lower than $\frac{1}{8}$ of a tone.

The rest of the DEPTH knob is quantized to semitones; you will see it flash once to indicate each new semitone. **We encourage you to use your ears to set the pedal's desired range.**

Alternatively, you can use MIDI to make quick changes to the knob values (see pages 6, 7).

BLEND

The BLEND knob adjusts the amount of DRY (unpitched) signal sent to the BIGSBY Pedal's output.

When the knob is turned all the way down (the knob is dark), the BIGSBY Pedal's output is fully WET (pitched signal). This setting recreates the sound of a classic tremolo system.

By gradually combining the WET and DRY signals, the BIGSBY Pedal can be used to produce nuanced chorus or harmonizer effects, depending on the DEPTH of the pitch-shift.

When BLEND is turned all the way up the volume levels of the WET and DRY signals are equal.

RATE

When the RATE knob is turned all the way down (the knob is dark), the BIGSBY Pedal's pitch-shift algorithm precisely follows the movement of the foot-pedal, and stays static for as long as the pedal is pressed down.

Turning up RATE will put BIGSBY Pedal into "Auto Mode", and the knob will start flashing.

In Auto Mode the pitch shift depth oscillates rhythmically at a given speed, while the maximum depth of the pitch-shift is determined by the amount of pressure applied to the foot-pedal. Adjust the RATE knob to change the speed of the vibrato effect.

When in Auto Mode, turning up the BLEND knob will produce a chorus-style effect.

When using MIDI, the BIGSBY Pedal can be synced to an external clock source (see page 6). In this case, the RATE knob lets you scroll through a variety of beat subdivisions. There is also a dedicated CC message for adjusting the offset of the vibrato curve.

DEPTH ▲

The BIGSBY Pedal's DEPTH knob allows you to set different values for the downward and upward pitch-shift intervals.

Press the SELECT button to enter the RED layer, which is indicated by a red backlight on the pedal's knobs. Use the DEPTH ▲ knob to set the desired upward pitch-shift value.

Toggling the INVERT switch on the pedal's back panel will only affect the foot-pedal's direction - the DEPTH values set up for both downward and upward pitch-shifting will remain set.

tone

The TONE knob adjusts the brightness of the WET signal produced by the BIGSBY Pedal. The DRY (unpitched) signal is not affected by the TONE control.

When the TONE knob is turned all the way down the WET signal will have a muffled, dark character - this is well-suited for imitating lower register instruments.

Turn the TONE knob all the way up to boost the WET signal's high frequencies - thus highlighting note attacks and overall string brightness.

DETUNE

The BIGSBY's DETUNE function emulates the instability and asymmetrical nature of traditional hardware tremolo systems.

When the DETUNE knob is turned all the way down, the BIGSBY will produce even pitch-shifts.

When DETUNE is turned all the way up, chords will have the familiar "out of tune" effect - a characteristic of mechanical string bending systems. Single notes will also sound "out of tune" and "warbly".



Knob Lock

The BIGSBY Pedal's knobs can be temporarily locked in order to prevent accidental adjustments during a live performance etc.

To lock the current knob settings, hold the SELECT button and toggle the INVERT switch on the back of the pedal.



When the pedal is locked, all knob adjustments will be ignored, which will be indicated by flickering knobs.

The SELECT button will still function as a toggle between the WHITE and RED knob layers.

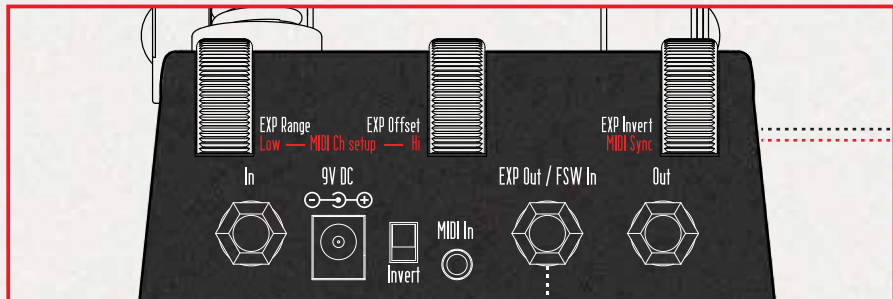
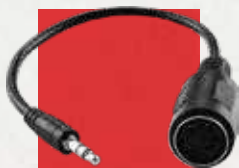
To unlock the knobs, toggle the INVERT switch to it's original position.

ADDITIONAL FUNCTIONALITY

MIDI In Connector

The BIGSBY Pedal can be fully controlled via MIDI CC and PC messages (see MIDI CC and PC map sheet included).

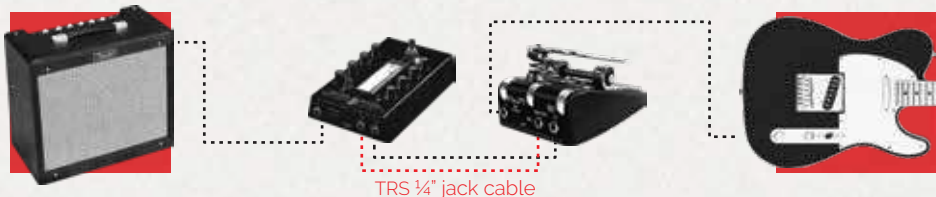
Connect the BIGSBY Pedal to the MIDI OUT of your interface or controller using a standard MIDI cable and the 3.5 mm TRS to 5 pin DIN MIDI adapter (Type B) included with the BIGSBY Pedal.



EXP Out / FSW In Connector

The EXP Out / FSW In connector on the BIGSBY's back panel is designed for dual purpose functionality:

■ The BIGSBY can be used as an **Expression pedal** to control external gear with an **EXP input**.



In this setup the BIGSBY Pedal is in front of the signal chain and is also **connected to the LIGHT Pedal's EXP input** - functioning as a pitch shifter and an expression controller simultaneously.

The BIGSBY Pedal's EXP Out settings - **RANGE**, **DIRECTION** and **OFFSET** - are adjusted separately in the **SETTINGS MENU** (see page 6).

The BIGSBY can also be used outside of the signal chain, as an Expression pedal only, but it still needs to be connected to a power source.

■ The BIGSBY Pedal can be put into **LATCH mode** with a standard external **footswitch**.



The BIGSBY Pedal's FSW In connector is compatible with all standard momentary or toggle type footswitches with a TS (Tip/Sleeve) 1/4" jack (normally closed or normally open).

You can also use a dual latching footswitch with a TRS jack - in this case only one side of the footswitch will work.

Pressing the footswitch will activate LATCH mode (indicated by the SELECT button). When latched - the BIGSBY will produce a constant pitch-shift determined by the current position of the DEPTH knob. This way you don't have to hold down the BIGSBY Pedal for long phrases.

In LATCH mode you can still use the BIGSBY's foot-pedal to make momentary dives and detune effects up to **two semitones**.

By pressing the opposite side of the foot-pedal the pitch shift's direction will be flipped.

SETTINGS MENU

To enter the **SETTINGS** menu press and hold the **SELECT** button for **8+ seconds**.

You've successfully entered the settings menu when you've seen a LED sequence on the pedal's knobs and the **SELECT** button is blinking.

Exit the **SETTINGS** menu by holding the **SELECT** button for **8 seconds**.

The settings menu is also structured as 2 layers - **WHITE** and **RED**. You can toggle between the **WHITE** and **RED** layers with the **SELECT** button.

☐ The **WHITE** layer allows you to adjust the following **EXPRESSION OUT** parameters:

- EXP RANGE** - adjusts the maximum range of expression out signal when pedal is used.
- EXP OFFSET** - the level of expression out signal when pedal is not pressed down (bypass).

EXP INVERT - this is a binary parameter for the direction of the expression out signal. When the knob is dark the **EXP** out signal's direction corresponds to the pedal's movement. When the knob is white - the **EXP** out signal's direction is inverted to the pedal's movement.

☒ The **RED** layer lets you set up the following **MIDI Parameters**:

MIDI CHANNEL SELECT

By default the **BIGSBY Pedal** is set up on **MIDI channel 1**, but you can change that to any **MIDI** channel between **1** and **16** by using the **MIDI** setup knobs:

MIDI setup **LOW** and **HI** are both divided into four steps and each step will be indicated by an according blinking sequence - one blink for step 1, two for step 2 etc.

The **MIDI** Setup **HI** knob lets you select between **four value ranges**:

1-4 5-8 9-12 13-16

The **MIDI** setup **LOW** knob lets you dial in a value between one and four - which represents the corresponding position in that **value range**.

Example:

If you wish to set your **BIGSBY Pedal** to **MIDI channel 2** then set the **MIDI** setup **HI** knob to it's minimum value (**range 1-4**) and then set the **MIDI** setup **LOW** to the second step (two blinks). To set up channel 12 set the **MIDI** setup **HI** value to 3 (three blinks) which represents the **value range 9-12**.

Next use the **MIDI** setup **LOW** knob and turn it all the way up (four blinks) - this will indicate the **fourth position in the value range 9-12 - i.e. channel 12**.

☒ **Alternatively**, hold down the **SELECT** button and power the Pedal on by inserting the power supply jack.

The **BIGSBY Pedal** is now looking for the first incoming **PC** or **CC** message and will set itself to whatever channel the first message is sent from.

MIDI SYNC

MIDI SYNC Knob - enables/disables synchronization of the **BIGSBY pedal's** **Auto Mode** with an external **MIDI Clock**.

When the knob is dark, the pedal is **NOT** synced to a **MIDI Clock** source and the **RATE** knob will adjust the vibrato speed continuously.

When the knob is **RED**, the **BIGSBY Pedal** is synced to a **MIDI Clock** source and the **RATE** knob can be used to dial in various beat subdivisions for the **Auto Vibrato** function:

- | | |
|-----|------|
| 1) | 2 |
| 2) | 15 |
| 3) | 1 |
| 4) | 3/4 |
| 5) | 1/2 |
| 6) | 3/8 |
| 7) | 1/3 |
| 8) | 1/4 |
| 9) | 3/16 |
| 10) | 1/6 |
| 11) | 1/8 |
| 12) | 1/12 |
| 13) | 1/16 |
| 14) | 1/24 |
| 15) | 1/32 |

* divisions of a whole note

SAVING AND RECALLING MIDI PRESETS

The BIGSBY Pedal offers **10 preset slots** accessible through MIDI PC Messages. These preset slots can be used to save the pedal's knob settings as well as the EXP Out settings and the MIDI Sync status.

You can find the full PC and CC message chart on a separate index card included in the BIGSBY Pedal's package, but the first 21 PC slots are dedicated to saving and recalling 10 PRESET slots.

PC messages 1-10 are used to recall presets 1-10 and PC Messages 11-20 will save the pedal's current settings to slots 1-10 accordingly.

Example:

Dial in your desired settings using the front panel knobs -
to save these settings to Slot 1 - send the PC message 11;
to save these settings to Slot 2 - send the PC message 12, etc.;
to save on Slot 10 - send the PC message 20.

To recall any of the presets 1-10 send the according PC messages 1-10.

When in a preset - use the PC message 21 to recall the physical values of the knobs.

RECALIBRATING THE BIGSBY PEDAL

The BIGSBY Pedal uses a system of optical sensors to ensure precise tracking of the foot-pedal's movements. To maintain precision over time the BIGSBY automatically calibrates itself on every power-up, in order to confirm the foot-pedal's "zero" or "center" position, therefore:

When powering up the BIGSBY Pedal make sure that the foot-pedal IS NOT pressed down.

If the foot-pedal is pressed down during the BIGSBY's power-up the pedal will detect an error and switch into RECALIBRATION MODE, indicated by flashing white&red knobs.

When the pedal is in RECALIBRATION mode, please perform the following steps:

1) Restart the BIGSBY Pedal by removing the power supply and plugging it back in.

Make sure that there is no pressure applied to BIGSBY's foot-pedal, while restarting.

2) Press the BIGSBY's foot-pedal all the way down and then all the way up.

This will complete the RECALIBRATION process and the BIGSBY Pedal will return into performance mode.

In some cases when only a small amount of pressure was applied to the pedal during power-up, the calibration error will be undetected, but you will still hear that the dry signal is slightly pitched. In this case - make sure that no pressure is applied to the foot-pedal and restart the BIGSBY Pedal.

TECHNICAL SPECIFICATIONS

Connector type In:	1/4" Unbalanced TS
Input impedance:	1 MΩ
Max input level:	9 dBu
Connector type Out:	1/4" Unbalanced TS
Output impedance:	100 Ω
Max output level:	9 dBu
Connector type Exp:	1/4" Unbalanced TRS (Exp out) / 1/4" Unbalanced TS (FSW in)
Input impedance (ring):	100 kΩ
Output impedance (tip):	220 Ω
Max input level:	20 dBu
Max output level:	20 dBu
Connector MIDI:	3.5 mm TRS (mini jack), Type-B
Type:	Optically isolated input, RF filtered
Frequency response:	20 Hz to 20 kHz (±1 dB)
Signal to noise ratio:	90 dB (A weighted)
Operating temperature:	0° to 50° C
Connector type power supply:	9V DC, center negative 2.1 x 5.5 mm plug
Input voltage:	9V DC
Input current:	220 mA
Power consumption:	2 W
Dimensions (LxWxH):	220 x 110 x 86 mm / 8,6 x 4,3 x 3,3 in
Weight:	960 g / 2.11 lb

FACTORY RESET

To perform a full factory reset of the BIGSBY Pedal (including erasing all saved presets) **unplug the pedal's power supply**, then press and **hold the SELECT button**, **plug the power supply back in** and **keep holding the SELECT button for 8 more seconds**. After 8 seconds you will see a sequence of lights on the pedal's knobs indicating that the FACTORY RESET has been completed.

WARRANTY & RETURNS

You have a 30 day return period when you may return the product and receive a full refund. You will only be responsible for return shipping charges. Each BIGSBY Pedal manufactured by Gamechanger Audio is warranted to be free from defects in materials and workmanship for one year from the date of shipping or longer if required by the relevant legislation.

This warranty shall not apply to any unit which in the opinion of the manufacturer has been used improperly or has been mechanically or otherwise damaged by accident, misuse or negligence or has been altered or repaired in such a way to impair performance, nor shall it apply to cosmetic defects (considered normal wear and tear).

Other parts, such as knobs, rubbers, cable connectors, are non replaceable. The manufacturer reserves the right to make changes in the design or construction of this equipment without obligation to install similar changes in equipment already sold.



For more information, feedback and all other inquiries, please visit

www.gamechangeraudio.com or reach us via e-mail: **info@gamechangeraudio.com**

SAFETY INFORMATION

Warning:

Use only power supplies that can produce at least 250 mA (or higher) of current at 9V DC (center negative 5.5 x 2.1 mm barrel connector).

This device may be subject to signal interference when operating near high power magnetic field generators, especially when using extended length audio cables, and this is considered normal operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Unauthorized changes or modification to this system can void the users authority to operate this equipment. This equipment requires shielded interface cables in order to meet FCC class B Limit.

For Europe:

This product complies with the requirements of Electromagnetic Compatibility Directive 2014/30/EU

For Canada:

NOTICE: This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

AVIS: Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

GAMECHANGER AUDIO

Aisteres street 6

Riga, Latvia

LV-1007

info@gamechangeraudio.com

www.gamechangeraudio.com



No user servicable parts inside